

Seed dispersal of *Orobanche ramosa* L. in South Australia

Emma L. Crossfield^{1,2}, Jennifer Watling², John Virtue^{1,3} and John Matthews²

¹CRC for Australian Weed Management

²School of Earth and Environmental Sciences, The University of Adelaide,
South Australia 5005, Australia

³Department of Water, Land and Biodiversity Conservation, GPO Box 2834, Adelaide,
South Australia 5001, Australia

Summary *Orobanche ramosa* L. (branched broomrape) is an annual root parasite. Native to the Middle East and Mediterranean Europe, it is now established near Murray Bridge in South Australia. It is a parasite of many broadleaf crops and weeds. The main impacts of the weed are reduced export potential of local produce, and in extreme infestations, yield reduction.

Orobanche ramosa was discovered in South Australia in the early 1990s, and since then has been the subject of intensive management and research. An 180,000 hectare quarantine zone has been established around the infestations, with the movement of fodder, crops, livestock, machinery and soil out of this area controlled by the Animal and Plant Control Commission under the Fruit and Plant Protection Act.

The seeds are tiny (0.3 mm) and are produced in high numbers (up to 10,000 per capsule). Seed dispersal by wind, animals, and farming equipment is being investigated. Wind dispersal will be assessed under natural conditions, as well as using a wind tunnel to determine dispersal distances in controlled conditions. Traditional seed trap designs are unsuitable for *O. ramosa* due to the size of the seeds and so new seed trap designs are being investigated. Three designs of seed traps were tested based on effective seed-capture, ease of use and cost. The most effective trap was used to assess natural wind dispersal of *O. ramosa* seeds.